

SECRET

25X1

FY-69 Quarterly Report No. 3

PAR 249

28 Feb 69

25X1
SUBJECT: [] Precision Enlarger Prototype (BPE) Operational
Improvements and Maintenance

TASK/PROBLEM

25X1
1. Provide photographic enlarger maintenance at the customer's facility for one [] Precision Enlarger (BPE) and three 10-20-40X Enlargers.

DISCUSSION

2. Contractor personnel visited the customer's facility three times during the report period and performed the following maintenance while there.

a. During the week beginning 9 December 1968 (reported in the December 1969 monthly report): Maintenance checks on four 10-20-40X enlargers and one BPE enlarger. In addition, the 10-20-40X S/N 123 had a slipping gear on the "Y" coordinate counter. The gear was drilled and pinned for more effective operation.

b. During the week beginning 6 January 1969 (reported in the January 1969 monthly report):

(1) The lamp in the "E" condenser on the BPE was changed because the "getter" that is spot welded to one of the wires was broken off inside the bulb.

(2) Two switches were replaced in the Lectra timer.

(3) Defective lights were replaced in the "Y" coordinate readout.

(4) A maintenance check on the BPE enlarger was performed (see check list for 8 January 1969 attached).

Declass Review by NGA.

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c. During the week of 3 February 1969:

(1) The four 10-20-40X enlargers received their regular two-month check in accordance with the prescribed Preventive Maintenance check lists (see attached). No major problems were noted. Two of the enlargers still need static eliminator power unit A-2 replaced as reported previously; however, the customer has not yet procured these parts.

(2) The Precision Enlarger (BPE) was inspected and the monthly Preventive Maintenance was performed on schedule (see check list dated 5 February 1969). The bridge rectifier (CR4) that supplies dc voltage to the solenoid of the fluid brushes was replaced to correct the problem reported in January.

d. During the week of 17 February, a call was received from the customer that the gate glass on the "D" lens of the BPE had become uncemented and fallen off. To effectively re-cement the lens it had to be returned to the contractor's facility. Because this type of repair is outside the scope of preventive maintenance, it was decided by agreement with the customer to absorb the cost for repair on the PAR.

PLANNED ACTIVITY

3. Complete repair of the "D" lens, and return it to the customer.
4. Perform monthly preventive maintenance on the BPE during the week beginning 3 March 1969.

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GROUP 1

EXCLUDED FROM AUTOMATIC DOWNGRADING
AND DECLASSIFICATION

PREVENTIVE MAINTENANCE SCHEDULE CHECK LIST

PRECISION ENLARGER

Assigned to: _____ Date 8 Jan 69 Machine Serial No. _____

✓	Item	Description
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Daily Interval

1	Check the four indicator lamps on the sub-control panel.
2.1	Check closed-negative-gate interlock.
2.2	Check interlock that causes vertical transport slow speed.
2.3	Check interlock that disables negative transport after fluid injection.
2.4	Check operation of microswitch that functions when manual-film-movement knob is pushed in.
3.1	Check the indicator lamps for the two attenuator banks of the easel photometer.
3.2	Check the meter scale illuminator lamp of the easel photometer.
3.3	Check the antifatigue lamp in photo-multiplier tube housing.
4	Clean the glass plates of the negative gate.

One-Week Interval

1	Vacuum-clean the enlarger.
2	Check, and if necessary, clean the objective lenses and all glass filters.
3	Vacuum-clean the front surface of the easel.
4	Check the fiber optics for broken fibers.

✓	Item	Description
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One-Month Interval

✓ 1	Wax the steel rails of the lens ramp and of the easel.
✓ 2	Install new air filter in lamphouse.
✓ 3	Clean the nylon brushes of the fluid removal system.
✓ 4	Check all tubing and hoses for cracks and air leakage.
✓ 5	Check and, if necessary, clean the lenses of the condenser lens assemblies.

Six-Month Interval

1.1	Make a photographic check on all six matching sets of objective and condenser lens assemblies.
1.2	Be sure that film is tracking properly in both directions on the negative transport system.
2	Check the timing belts of the film transport system, of the vertical drive system, and of the easel drive assembly for wear.

Checked by: CAP/HR Date 8 Jan 69

REMARKS:

Replaced "F" condenser bulb.

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28 Feb 69

PREVENTIVE MAINTENANCE SCHEDULE CHECK LIST **TWO-MONTH INTERVAL**

PRECISION ENLARGER, 10-20-40X

Assigned To:

25X1

Date: 5 Feb 69

Machine Serial No.

25X1

✓	Item	Description	✓	Item	Description
	1	Film Transport		8	Vacuum Pump Assembly
* ✓	1.1	Static Removal Unit	NA	8.1	Hoses and Couplings
** ✓	1.2	Guide Roller Flanges	NA	8.2	Pump
✓	1.3	Air Knives	NA	8.3	Oil Level
✓	1.4	Belts and Pulleys		9	Lamp House Assembly
✓	1.5	Lubricate Bearings	✓	9.1	Housing
	2	Easel and Stencil Assembly	✓	9.2	Filter (Photographic)
NA	2.1	Easel	✓	9.3	Light Leaks
NA	2.2	Air Pressure System	✓	9.4	Lamp House Blower
	3	Illuminator		10	Immersion System
✓	3.1	Glass	*** ✓	10.1	Ejectors
✓	3.2	Lamps	✓	10.2	Hoses and Couplings
✓	4	Negative Gate Interlock	✓	10.3	Blower
✓	5	Lenses	✓	10.4	Fluid Level
✓	6	Stripper Plate	✓	11	Lamp House Control
	7	Air Pressure System	✓	12	Analyzer
	7.1	Air Lines		13	Photo Check
NA	7.2	Compressor Control		13.1	Resolution
NA	7.3	Relief Valve		13.2	Uniformity
	7.4	Regulator	✓	14	General Inspection
NA	7.5	Filter-Compressor			
NA	7.6	Drain Storage Tank			

Initials CAC**REMARKS:**

Form No. MS-103

March 26, 1966

- * Power pack needs replacement.
 ** Flanges froze in 9.5-inch position.
 *** Upper ejector bent; requires replacement.

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PREVENTIVE MAINTENANCE SCHEDULE CHECK LIST
TWO-MONTH INTERVAL

PRECISION ENLARGER, 10-20-40X

Assigned To: 25X1

Date: 5 Feb 69

Machine Serial No. 25X1

✓	Item	Description	✓	Item	Description
	1	Film Transport		8	Vacuum Pump Assembly
* ✓	1.1	Static Removal Unit	NA	8.1	Hoses and Couplings
** ✓	1.2	Guide Roller Flanges	NA	8.2	Pump
✓	1.3	Air Knives	NA	8.3	Oil Level
✓	1.4	Belts and Pulleys		9	Lamp House Assembly
✓	1.5	Lubricate Bearings	✓	9.1	Housing
	2	Easel and Stencil Assembly	✓	9.2	Filter (Photographic)
NA	2.1	Easel	✓	9.3	Light Leaks
NA	2.2	Air Pressure System	✓	9.4	Lamp House Blower
	3	Illuminator		10	Immersion System
✓	3.1	Glass	✓	10.1	Ejectors
✓	3.2	Lamps	✓	10.2	Hoses and Couplings
*** 4		Negative Gate Interlock	✓	10.3	Blower
✓	5	Lenses	✓	10.4	Fluid Level
✓	6	Stripper Plate	✓	11	Lamp House Control
	7	Air Pressure System	✓	12	Analyzer
✓	7.1	Air Lines		13	Photo Check
NA	7.2	Compressor Control		13.1	Resolution
NA	7.3	Relief Valve		13.2	Uniformity
✓	7.4	Regulator		14	General Inspection
NA	7.5	Filter-Compressor			
NA	7.6	Drain Storage Tank			

Initials CAC

REMARKS:

- * Power pack needs replacement.
- ** Flanges froze in the 9.5-inch position.
- *** Cam requires replacement.

Form No. MS-103

March 26, 1966

PREVENTIVE MAINTENANCE SCHEDULE CHECK LIST
TWO-MONTH INTERVAL

PRECISION ENLARGER, 10-20-40X

Assigned To: 25X1
 Date: 5 Feb 69
 Machine Serial No. 25X1

✓	Item	Description	✓	Item	Description
	1	Film Transport		8	Vacuum Pump Assembly
✓	1.1	Static Removal Unit	NA	8.1	Hoses and Couplings
✓	1.2	Guide Roller Flanges	NA	8.2	Pump
✓	1.3	Air Knives	NA	8.3	Oil Level
✓	1.4	Belts and Pulleys		9	Lamp House Assembly
✓	1.5	Lubricate Bearings	✓	9.1	Housing
	2	Easel and Stencil Assembly	✓	9.2	Filter (Photographic)
NA	2.1	Easel	✓	9.3	Light Leaks
NA	2.2	Air Pressure System	✓	9.4	Lamp House Blower
	3	Illuminator		10	Immersion System
✓	3.1	Glass	**	10.1	Ejectors
*✓	3.2	Lamps	✓	10.2	Hoses and Couplings
✓	4	Negative Gate Interlock	✓	10.3	Blower
✓	5	Lenses	✓	10.4	Fluid Level
✓	6	Stripper Plate	✓	11	Lamp House Control
	7	Air Pressure System	✓	12	Analyzer
✓	7.1	Air Lines		13	Photo Check
NA	7.2	Compressor Control		13.1	Resolution
NA	7.3	Relief Valve		13.2	Uniformity
✓	7.4	Regulator	✓	14	General Inspection
NA	7.5	Filter-Compressor			
NA	7.6	Drain Storage Tank			

Initials CAC

REMARKS:

- * One lamp needs replacement.
- ** Upper ejector bent; needs replacement.

Form No. MS-103
 March 26, 1966

PREVENTIVE MAINTENANCE SCHEDULE CHECK LIST
TWO-MONTH INTERVAL

PRECISION ENLARGER, 10-20-40X

Assigned To:
 Date: 6 Feb 69
 Machine Serial No.

25X1

25X1

✓	Item	Description	✓	Item	Description
	1	Film Transport		8	Vacuum Pump Assembly
✓	1.1	Static Removal Unit	NA	8.1	Hoses and Couplings
✓	1.2	Guide Roller Flanges	NA	8.2	Pump
✓	1.3	Air Knives	NA	8.3	Oil Level
✓	1.4	Belts and Pulleys		9	Lamp House Assembly
✓	1.5	Lubricate Bearings	✓	9.1	Housing
	2	Easel and Stencil Assembly	✓	9.2	Filter (Photographic)
NA	2.1	Easel	✓	9.3	Light Leaks
NA	2.2	Air Pressure System	✓	9.4	Lamp House Blower
	3	Illuminator		10	Immersion System
✓	3.1	Glass	✓	10.1	Ejectors
✓*	3.2	Lamps	✓	10.2	Hoses and Couplings
✓	4	Negative Gate Interlock	✓	10.3	Blower
✓	5	Lenses	✓	10.4	Fluid Level
✓	6	Stripper Plate	✓	11	Lamp House Control
	7	Air Pressure System	✓	12	Analyzer
✓	7.1	Air Lines		13	Photo Check
NA	7.2	Compressor Control		13.1	Resolution
NA	7.3	Relief Valve		13.2	Uniformity
✓	7.4	Regulator		14	General Inspection
NA	7.5	Filter-Compressor			
NA	7.6	Drain Storage Tank			

Initials CAC

REMARKS:

* Three lamps need replacement.

Form No. MS-103
 March 26, 1966

PREVENTIVE MAINTENANCE SCHEDULE CHECK LIST

PRECISION ENLARGER

25X1

25X1

Assigned to: _____ Date 5 Feb 69 Machine Serial No. _____

25X1

✓	Item	Description
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Daily Interval

✓	1	Check the four indicator lamps on the sub-control panel.
✓	2.1	Check closed-negative-gate interlock.
✓	2.2	Check interlock that causes vertical transport slow speed.
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✓	2.4	Check operation of microswitch that functions when manual-film-movement knob is pushed in.
✓	3.1	Check the indicator lamps for the two attenuator banks of the easel photometer.
✓	3.2	Check the meter scale illuminator lamp of the easel photometer.
✓	3.3	Check the antifatigue lamp in photo-multiplier tube housing.
✓	4	Clean the glass plates of the negative gate.

One-Week Interval

	1	Vacuum-clean the enlarger.
	2	Check, and if necessary, clean the objective lenses and all glass filters.
	3	Vacuum-clean the front surface of the easel.
	4	Check the fiber optics for broken fibers.

✓	Item	Description
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One-Month Interval

✓	1	Wax the steel rails of the lens ramp and of the easel.
✓	2	Install new air filter in lamphouse.
✓	3	Clean the nylon brushes of the fluid removal system.
✓	4	Check all tubing and hoses for cracks and air leakage.
✓	5	Check and, if necessary, clean the lenses of the condenser lens assemblies.

Six-Month Interval

	1.1	Make a photographic check on all six matching sets of objective and condenser lens assemblies.
	1.2	Be sure that film is tracking properly in both directions on the negative transport system.
	2	Check the timing belts of the film transport system, of the vertical drive system, and of the easel drive assembly for wear.

Checked by: CAC Date 5 Feb 69

REMARKS:

Replaced rectifier CR4 in fluid brush circuit; replaced two lamps in "Y" readout; replaced two lamps in "X" readout.